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REMARKS

Claims 33-65 are now pending. Applicant appreciates the notification that Claims 38 and 40 (as depending from 38) would be allowable if rewritten to overcome the Section 112 rejections. The present amendment is believed to have accomplished that goal, and accordingly these two claims should be allowed. It should be noted that original Claim 40 has been amended to delete the reference to Claim 38, and new Claim 65 has been added as being directly dependent upon newly Independent Claim 38.

The remaining claims have been amended to recite a specific particle size range of the resin, namely about 100 to 1000 microns. Support for this claim amendment comes from the specification as filed. See Page 8, lines 12-14 of the Published PCT Application, reproduced below:

the manufacturing process. In the present invention described in this application, membranes are made from perfluorinated thermoplastic resins reduced to approximately 100 to 1000 micron size, preferably about 300 micron size, by a suitable grinding process. Moreover, in the

Claims 33-64 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In view of the amendments made herein, this rejection may now be reconsidered and withdrawn. Such action is respectfully requested.

Claim 55-63 are also rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. In view of the amendments made herein, this rejection may now be reconsidered and withdrawn. Such action is respectfully requested.

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Claims 33, 34, 36, 39, 40 (depending from 33, 34, 36 or 39), and 41-43 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Muto et al (US 5,066,397). This rejection is respectfully traversed for the following reasons:

Muto ('397) simply teaches hollow fiber filter elements comprising a plurality of porous hollow fiber membranes of a thermoplastic resin, each of which membranes has two end portions, at least one of said end portions of said membranes being directly fusion bonded at its periphery to form a unified terminal block in which the end portions of said membranes are fluid-tightly bonded to each other in a fused fashion. The following excerpt is taken from the '397 patent:

In unified terminal blocks 2, the end portions of membranes 1 may be fusion-bonded either directly or through a thermoplastic resin medium. When the end portions of membranes 1 are fusion-bonded through a thermoplastic resin medium, the thermoplastic resin medium is made of either a resin of the same type as that used for the hollow fiber filter membranes or a resin which is of a type different from the type of the resin used for the hollow fiber filter membranes and which is compatible with the resin used for the membranes and has a softening point preferably 0.5 to 1.5 times, more preferably 0.8 to 1.2 times, as high as the softening point (°C) of the thermoplastic resin used for the hollow fiber filter membranes. The term "softening point" as used herein is intended to mean the melting point if the resin is of a crystallizable type and to mean the glass transition point if the resin is of a non-crystallizable type. Resins suitable for the thermoplastic resin medium include, for example, FEP (melting point: 250-295°C), PFA (melting point: 302-310°C), ETFE (melting point: 270°C), polyethylene (melting point: 108-135°C), polypropylene (melting point: 160-165°C), polyamide (melting point: 215-255°C) and polysulfone (glass transition point: 190°C).

If the resin for hollow fiber filter membranes 1 is different in softening point from the resin for the thermoplastic resin medium, it is necessary that the temperature needed to melt one resin having a higher softening point be lower than the decomposition temperature of the other resin having a lower softening point. The resin for membranes 1 and the resin for the medium may preferably be

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of substantially the same softening point, more preferably of the same type.

Muto is silent regarding any particular particle size for the resin and thus fails to either anticipate or make obvious the invention defined by the rejected claims. The rejections of Claims 33, 34, 36, 39, 40 (depending from 33, 34, 36 or 39), and 41-43, under either Section 102 or Section 103 should thus be reconsidered and withdrawn. Such action is respectfully requested.

Claims 33, 34, 35, 37, 40 (depending from 35 or 37), 45-51, and 55-63 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under, 35 U.S.C. §103(a) as obvious over Ashelin et al (US 5,154,827). This rejection is respectfully traversed for the following reasons:

Ashelin ('827) simply discloses a microporous polyfluorocarbon filter cartridge which uses a membrane made up of three or more sheets of aggregated microporous fluorocarbon polymer, **said polymer having in the unaggregated state an individual particle diameter of not more than 0.3 micron.** See Column 3, lines 27-31, reproduced below:

fluorocarbon polymer. The polymer has in its unaggregated state an average individual particle diameter of not more than about 0.3µm in order to provide a sufficiently fine porosity and strength in the aggregated state. The at least three sheets of the membrane include

Reduction of particle size to this small size greatly increases the difficulty of the manufacturing process. Moreover, the particle size specified in the '827 patent is a key feature of that invention. Nothing in the '827 patent teaches or suggests the presently claimed particle size of about 100 to 1000 microns. Accordingly, the rejections of Claims 33, 34, 35, 37, 40 (depending from 35 or 37), 45-51, and 55-63 under either

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Section 102 or Section 103 should be reconsidered and withdrawn. Such action is respectfully requested.

Claims 44 and 64 are rejected under 35 U.S.C. §103(a) as being unpatentable over Muto et al (US 5,066,397) in view of Ashelin '827. This rejection is respectfully traversed for the following reasons:

Muto has been distinguished above. Likewise, Ashelin has been distinguished above. The proposed combination of the teachings of these references does not overcome the deficiencies of their individual teachings. Accordingly, the rejection of Claims 44 and 64 under Section 103 should be reconsidered and withdrawn. Such action is respectfully requested.

Claims 33-39, 40 (depending from 33-37 or 39), and 41-64 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kawai (5,158,680) in view of EP 0 175 432 A2. This rejection is respectfully traversed for the following reasons:

Kawai ('680) simply discloses a microporous polyfluorocarbon filter cartridge which uses a membrane made up of PTFE resins, said polymer resins having a particle size not greater than 1 micron, preferably not greater than 0.8 micron. See Column 3, lines 59-62, reproduced below:

densing such an aqueous dispersion. More specifically, the dispersion contains PTFE resin particles of a particle size not greater than 1 μ , preferably not greater than 0.8 μ , uniformly dispersed therein.

Nothing in Kawai teaches or suggests the particle size limitation recited in the amended claims.

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EP '432 is silent regarding the particle size of the fluorocarbon resin materials employed therein, and accordingly, the combined teachings of Kawai and EP '432 would follow the only relevant teaching related to that point – the teaching dictated by Kawai. Clearly the combined teachings of these two references do not make obvious the invention defined by amended Claims 33-39, 40 (depending from 33-37 or 39), and 41-64, and this Section 103 rejection should be reconsidered and withdrawn. Such action is respectfully requested.

PETITION FOR EXTENSION OF TIME

Applicant hereby requests a three-month extension of time for the filing of this response, extending the original filing deadline of October 7, 2005 to January 7, 2006.

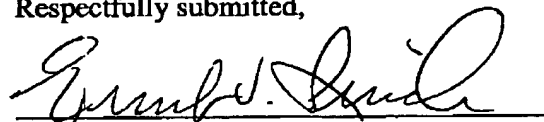
FEE AUTHORIZATION

Please charge all fees associated with this filing to our Deposit Account – No. 19-0733.

CERTIFICATE OF FACSIMILE TRANSMISSION

The undersigned hereby certifies that this correspondence was submitted by facsimile in the USPTO on the date shown on Page 1.

Respectfully submitted,


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